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Manipulating light: exploring performative teaching in architectural lighting design studies

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Hochschullehre als reflektierte Praxis

Fachdidaktische Fallbeispiele mit Transferpotenzial

Tobias Schmohl, Kieu-Anh To (Hg.)

Manipulating light: exploring performative teaching in architectural lighting design studies

MARY ANNE KYRIAKOU

Abstract

This paper is about architectural master students using light and video to interpret four pieces of music (from different styles and periods). The students presented the work in a classical music concert for solo instruments. The presentation was a concert held for the *Tagung für Musikvermittlung* at the Detmold University of Music (*Hochschule für Musik Detmold*) on May 31, 2014.

Using light as a planning tool, the aim of the course was to enrich students' understanding and construction of emotional space with light. Theatrical lighting approaches were explored in the first nine weeks of the course and the remaining six weeks were spent on architectural light planning.

Keywords: Performative Teaching, Architectural Lighting, Audiovisual Learning

1 Introduction

The idea to explore light (including video) for a classical music concert was to approach the subject of architectural lighting design from a performative aspect. Changes from paper-based design methods to digital methods open new pedagogical processes (Oxman, 2006 a,b,c).

Architectural lighting design and planning is undergoing change as lighting systems and controls are shifting to digital systems. Unlike theatrical lighting, architectural light planning is required to meet the biological and activity needs of the users (Lam, 1977). Without first-hand experience of physically manipulating light and seeing its influence and effect on materials and the environment, the student cannot grasp the emotion and immateriality of the medium. The students are required to work on three levels, one being the connection with light and environment (including the emotion), the second with the user needs and the third with the digital technology. A multi-disciplinary approach was used to teach the subject to ensure an enriched insight into the lighting, design, video technology and music.

Students worked across various mediums: light, video and music to present a light interpretation for the music. The performative teaching approach in a concert setting meant that the light could be controlled to shift between stage, soloist and fantasy.

Theatrical lighting obscurity, or the lack of light, can also effectively render our immediate surroundings and environment in unexpected ways. This concept is perhaps best illustrated with examples from theatrical stage lighting, where the careful control of illuminance enables the stage to become a shifting illusionary space of the imagination (Descottes, 2011).

Architectural lighting design deals essentially with the control of daylight and artificial lighting in architecture. The recent change from analogue to digital lighting (including equipment and controls) has meant that the architectural environment can be programmed with changes in illuminance and colour temperature to simulate changing sky conditions and ultimately be better in sync with the user's biological needs. This recent shift in dynamic lighting control has brought about new possibilities of exploring the performative aspect of interior architectural environments with daylight and electric lighting.

The formal question of this study includes: how does the performative aspect explored in the theatrical lighting techniques enhance the educational quality? How do architectural students manipulate light to create the relationship between environment and user? How are the qualitative aspects of light manipulated to create an emotional space? How do digital technologies influence the concert experience in a classical concert for solo instrument? What is the methodology to teach and introduce architectural students to these themes?

2 Teaching Methodology

The architectural master's students of the *Detmolder Schule für Architektur und Innenarchitektur* participated in the compulsory lighting module titled *Licht Raum Farbe* taught by the author. The section of the course presented in this paper was taught over an intensive nine-week period.

During this time the students were introduced to music scores and recordings provided by music educator Ernst Klaus Schneider, worked on theatrical and lighting techniques with lighting educator and designer Kyriakou and light artist Ingo Bracke and introduced to the video-editing program Final Cut Pro in a workshop held by video artist Markus Vila Richter.

The light and music concert format was held in the *Brahms-Saal* at the HFM. The event acted as a vehicle to explore and experiment with theatrical and architectural lighting approaches with classical music. The music selection by Schneider and Kyriakou aimed to create a varied repertoire for solo instruments, namely voice, piano, guitar and clarinet. The pieces, approximately eight minutes each in duration, were selected to allow the students sufficient time to develop a video and light scene in the nine week period. Each architectural student was tasked to work on one of the following music pieces 1. Hildegard von Bingen (1089–1178) from the “*Symphoniae armoniae caelestium revelationum*”: Antiphon “*O quam mirabilis*”, Antiphon “*O Pastor animarum*”, Antiphon “*O virga mediatrix*” 2. Carl Philipp Emanuel Bach

(1714–1785), Sonate Nr. 3 e-moll (1743) from “Die sechs Württembergischen Sonaten für Klavier” with sections from the Allegro, Adagio and Vivace movements. 3. Mary-Anne Kyriakou (1974) a piece for guitar and light. 4. Igor Stravinsky (1882–1971), Three Pieces for Solo Clarinet (1919).

The majority of students had very little experience in working with light and appreciation for classical music. Out of the group of seven-teen students, only one played an instrument.

In an invited lecture, Schneider prepared a musical introduction to each one of the pieces, including providing copies of the scores and presenting audio recordings. The musical input was very well received and appreciated by the students.

During the lighting lectures held by Kyriakou the students were introduced to the following titles; 1. Architectural and theatrical approaches to planning with light; 2. Artistic approaches to music and light with examples from Mischa Kubells Platon's Mirror, Paul Klee¹, John Cage's performance “Water Walk” (1960) and Mary Ellen Bute's “Seeing Sound” (1934); 3. Approaches to architecture as the translation of music². Topic discussion included 1. Is a concert space translating the music? 2. Form as composition. In the period before and after the mid-semester presentations, the students were introduced to lighting techniques through workshops with Ingo Bracke and the author, held at Technische Hochschule Ostwestfalen-Lippe (*Ostwestfalen-Lippe University of Applied Sciences and Arts*). The workshops explored the technical aspects of light and light as a functional and emotive planning tool.

As part of the light planning, the architectural students visited the Brahms-Saal to check room measurements and record the artificial and day lighting conditions. This included notes on the qualitative aspects of light using an early version of the MAK Method.³

Upon surveying the concert room, the lighting approach and strategy was further developed. The Brahms-Saal was a “white box” as opposed to the theatrical “black box” room, i. e. the room was largely white with reflecting surfaces, with large windows, and had a small raised stage. The concert was planned for mid-afternoon and windows were darkened to create an atmosphere to enable the effective use of electric lighting with video.

The existing architectural lighting was not used during the performances with the exception of talks held between performances. A number of existing spotlights were used during the performance to highlight the performers. For the concert preparation, a bust of Brahms was positioned on the centre stage and was covered and an immovable grand piano had to suddenly disappear (but not be moved) during the performances not requiring a piano.

1 Robert Delaunay, *La Lumière*, 1913, translated into German by Paul Klee for the journal *Der Sturm*, under the title “Über das Licht”.

2 The students were given select essays from the following books for extra reading: Muecke, Mikesch W.: *Resonance: Essays On The Intersection Of Music And Architecture*, lulu.com, 2011, and Martin, Elizabeth (Ed.). *Pamphlet Architecture 16: Architecture as a Translation of Music*, Princeton Architectural Press, 1996.

3 MAK Method is a method developed by the author in 2014, to interpret the qualitative aspects of light in room.

Parallel to this activity, the students attended the workshops held by Vila Richter. Working from audio recordings and YouTube videos, the students created their artistic videos. In the case of the author's piece, which did not have an existing recording, the students worked from a live audio recording made by the guitarist.

The resulting artistic approaches to the videos were as varied as the pieces. All videos considered aspects of light and time in the content.

In the mid-semester exam, four out of the seventeen pieces were selected based on their artistic merit and ease of realisation. The student group of seventeen students worked together to create the room lighting scenes for the selected works.

3 Challenges

From an architectural perspective, the musical themes were transformed through the planning of light and space.

The theatrical and architectural lighting interpretations with the videos created the desired atmosphere and set the scene. However, the introduction of the performer commanded a changed focus and new condition. The soloist as performer and protagonist brought a live aspect. The productions of the videos were from audio recordings. The shift from pre-recorded to live performance produced a level of complexity unforeseen by the architectural students. Where should the first focus reside? Which was of greater importance, staging, lighting or soloist? How much and what kind of visual input was required? Was the video now suitable? What can be learnt from this in the performative aspect of architecture and lighting design?

Some of these questions were resolved through trying out and making ongoing adjustments to the scene even during the performance. The other questions were discussed in a feedback session in a seminar after the concert performance.

4 Rehearsals and Concert

The learning process of experimenting and trying out involves several steps to produce an acceptable light scene. Students first provided sufficient task lighting for the soloist and then built the scene with the architecture, video and light. They were able to manipulate their video with live fades in sections of music. The rehearsal and set-up before the concert gave students the opportunity to test. Due to limited access to the room, the two-day testing period was a relatively short time to test. During this time the students had to quickly reflect, react and to resolve the problems. Music students from the HFM made one rehearsal with the lighting and video pieces on May 30 before realising the concert on May 31, 2014.

5 Video and lighting realisation

In the first video by Carina Kisker for the piece by Hildegard von Bingen, the stage is in darkness until the film, also beginning in darkness, is gradually revealing abstract forest scenes. The live video fading effects were achieved using a software program/video editing VJ-ing tools. The soloist was spotlighted and the background dark, creating a mystical atmosphere (Fig. 1, 2).



Figure 1: Blue stage accent lighting with video in background for the piece of Hildegard von Bingen



Figure 2: The stage is illuminated in a warm orange and red color by LED accent lights; the video is seen in the background

In the second piece by Carl Philipp Emanuel Bach, the student filmed close-up views from a field of grass; the stage set-up included the construction of a shadow play (Fig. 3). During the performance, the visuals and soloist appeared to compete with each other. A more reduced visual palette would serve the performance better as the music was relatively complex.



Figure 3: Fast moving close up video and shadow play

In the third piece *Guitar and Light* by Kyriakou, the video film was created by Carolina Correia and Stephanie Dick. The film showed/documentated an action painting of the artist interpreting the live recording by guitarist Gillian Omalyev. The abstract and reduced action painting and stage lighting brought the soloist into focus and complimented the performance (Fig. 4).



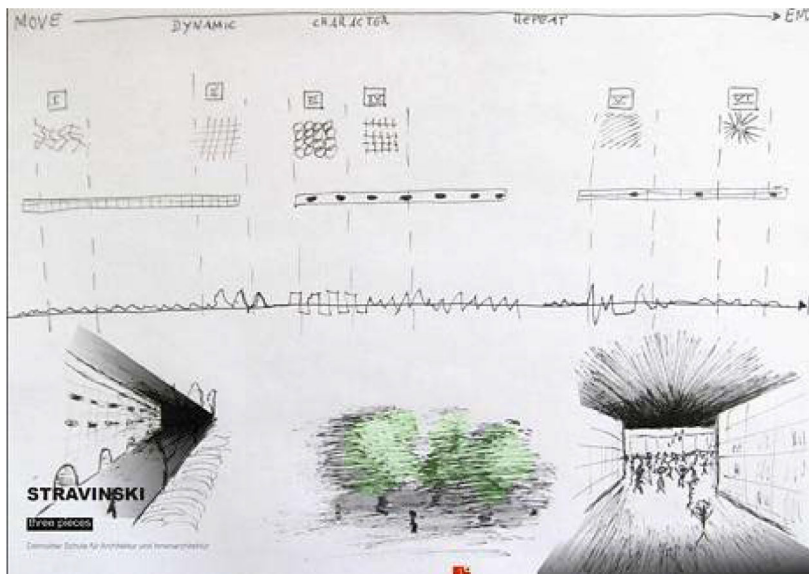
Figure 4: Video with front stage lighting

In the fourth piece by Stravinsky, the students Jan and Marcel Füchtencordsjürgen interpreted the *Three Pieces for Clarinet Solo*, drawing on the life of Stravinsky in Russia as their inspiration. They introduced an architectural language through form and experience of space. Refer to Sketching References 1, 2 and Figure 5.



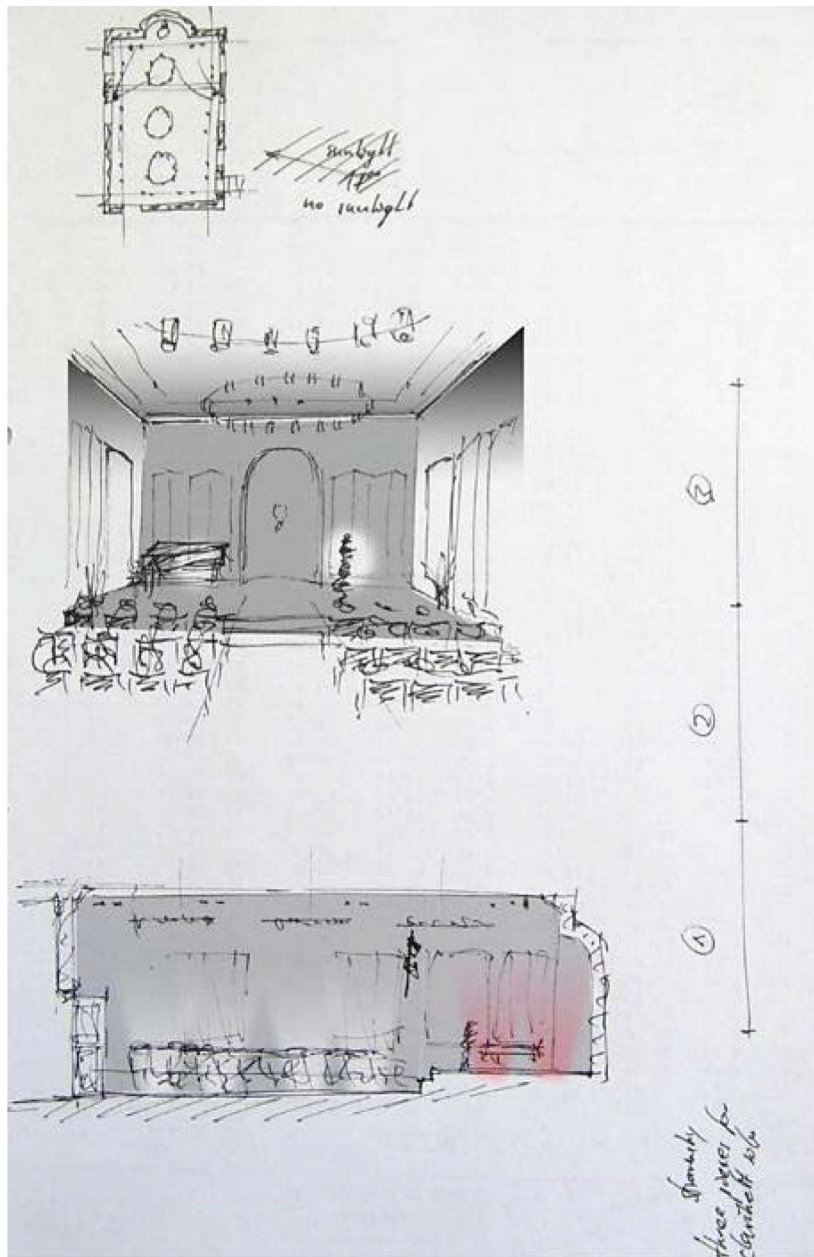
Figure 5: A mix of video with scenic lighting

„Die Bühne wird zum Fenster in die Gedankenwelt Stravinskys, der Gast wird durch Lichtakzente und Stimmungen für einen kleinen Zeitraum zum Begleiter.“ (Marcel Füchtencordsjürgen, Student).



Sketching reference 1. Light and concert concept for Three Pieces for Clarinet Solo by Stravinsky expressed in three scales of space relating to Stravinsky's life and translated into the physicality of the concert room. Themes were namely: I. lonely at night II. trees and sun III. urban space

The students achieved a highly emotive environment through manipulating the mood with light and working with performers.



Sketching reference 2. Room concept

6 Discussion

Based on the experience of working with students, some aspects for consideration when creating a lighting course with a performative aspect include:

- The potential to have part of the course taught by professionals. This is to give the students an invaluable insight into an intangible medium.
- Obtain sufficient access to the concert space and receive the list of lighting inventory well before visiting the space with the students. Even when a concert room is well-managed there are often delays in getting access to technical information.
- Develop a strategy around the type of space i. e. white box or black box. This is to ensure there is adequate darkness for video and electric light planning.
- When possible, work with performers early in the concept phase in particular when artistic material is being developed. This is to avoid some of the problems highlighted in this paper.
- Create a positive learning environment for working with the lighting equipment and video. By trying out and testing students will gain a greater understanding of materials, user needs and the planning process.

The nine-week period was a relatively short time span for this part of the subject module. In the future this course could be taught over the entire semester. The short time frame was due to the timing of the planned concert and the semester calendar. Taking the time for feedback sessions with the students helped to obtain a better understanding of the teaching practice. Through gaining first-hand lighting experience, the students were better prepared for the remaining part of architectural light planning taught over the rest of the semester.

Another question to be considered in the future: how does the audience receive the performance?

These considerations aim to create a meaningful learning process.

7 Conclusion

The multi-disciplinary approach to teaching architectural students about lighting was effective. In particular, a performative practise framework to the teaching of lighting design holds great potential to enrich students' understanding of user needs and constructing emotional spaces. The aspect of classical music was inspiring and a good challenge for the students.

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